

ABSTRACT OF DISCLOSURE

A processing system and method for chemically treating a substrate, wherein the processing system comprises a temperature controlled chemical treatment chamber, and an independently temperature controlled substrate holder for supporting a substrate for chemical treatment. The substrate holder is thermally insulated from the chemical treatment chamber. The substrate is exposed to a gaseous chemistry, without plasma, under controlled conditions including wall temperature, surface temperature and gas pressure. The chemical treatment of the substrate chemically alters exposed surfaces on the substrate.